This listing of claims will replace all prior versions of claims in the application.

Claim 1. (previously presented) A control system to control energizing one or more electrical resistance igniters from an electrical power source, the control system comprising:

a switch operably connected between the electrical power source and the one or more electrical resistance igniters;

a control device operably coupled to the switch;

wherein the control device is configured and arranged to selectively control the switch and thereby the application of a voltage to the one or more electrical resistance igniters; and

wherein the control device is configured and arranged so that the voltage being applied initially is a first voltage, so the first voltage is applied for a full-on time period and so thereafter the average voltage being applied is a second voltage lower than the first voltage, and the second voltage is a nominal operating voltage that heats the igniter to a temperature lower than a fuel ignition temperature.

Claim 2. (original) The control system of claim 1, wherein the first voltage is full line voltage of the power source and wherein the second voltage is a nominal operating voltage of the one or more electrical resistance igniters.

Claim 3. (original) The control system of claim 1, further comprising a voltage measuring device, the voltage measuring device being operably coupled to the electrical power source so as to measure an output voltage of the power source and being operably coupled to the control device so as to provide an output of the measured output voltage to the control device; and

wherein the control device is configured and arranged to determine the full-on time period based on the measured output voltage.

Claim 4. (original) The control system of claim 1, wherein the control device is configured and arranged so as to provide a fairly constant voltage as the second voltage.

Claim 5. (original) The control system of claim 3, wherein the control device is configured and arranged to regulate the second voltage so as to provide a fairly constant voltage based on the measured output voltage.

Claim 6. (original) The control system of claim 3, further comprising a storage device in which is stored a multiplicity of time period values and related output voltages; and wherein the control device is configured and arranged to select one of the stored multiplicity of time period values as the full-on time period based on the measured output voltage.

Claim 7. (original) The control system of claim 5, wherein the control device is configured and arranged to selectively operate the switch so as to regulate the second voltage.

Claim 8. (original) The control system of claim 1, wherein the switch is triac.

Claim 9. (original) The control system of claim 8, wherein the control device is configured and arranged to selectively operate to the triac so as to regulate the second voltage by duty cycling the power source output voltage in half-wave cycle increments.

Claim 10. (original) The control system of claim 1, wherein the control device includes a microprocessor and in an applications program for execution in the microprocessor, the applications program including instructions and criteria for controlling the functionality of the control device and the switch.

Claim 11. (previously presented) A control system to control energizing one or more electrical resistance igniters from an electrical power source, the control system comprising:

a switch operably connected between the electrical power source and the one or more electrical resistance igniters;

a microprocessor operably coupled to the switch;

a voltage measuring device, the voltage measuring device being operably coupled to the electrical power source so as to measure an output voltage of the power source and being operably coupled to the microprocessor so as to provide an output of the measured output voltage to the microprocessor;

a program for execution in the microprocessor, the program including instructions and criteria for controlling the operations and functions of the microprocessor and the functionality of the switch; and

wherein the program includes instructions and criteria for:

controlling the switch and thereby application of a voltage to the one or more electric resistance igniters,

controlling the switch so the voltage being applied initially is a first voltage and so the first voltage is applied for a full-on time period,

controlling the switch so the average voltage being applied thereafter is a second voltage that is lower than the first voltage, and

determining the full-on time period based on the measured output voltage.

Claim 12. (previously presented) The control system of claim 11, wherein the first voltage is full line voltage of the power source and wherein the second voltage is a nominal operating voltage of the one or more electrical resistance igniters.

Claim 13. (original) The control system of claim 11, wherein the program includes instructions and criteria for regulating the second voltage so a fairly constant voltage is applied to the one or more electrical resistance igniters.

Claim 14. (original) The control system of claim 13, wherein the program includes instructions and criteria for regulating the second voltage so a fairly constant voltage is applied to the one or more electrical resistance igniters based on the measured output voltage.

Claim 15. (original) The control system of claim 13, further comprising a storage device in which is stored a multiplicity of time period values and related output voltages; and wherein the program includes instructions and criteria for selecting one of the stored multiplicity of time period values as the full-on time period based on the measured output voltage.

Claim 16. (original) The control system of claim 11, wherein the program includes instructions and criteria for selectively operating the switch so as to regulate the second voltage.

Claim 17. (original) The control system of claim 11, wherein the switch is triac.

Claim 18. (original) The control system of claim 17, wherein the program includes instructions and criteria for selectively operating the triac so as to regulate the second voltage by duty cycling the power source output voltage in half-wave cycle increments.

Claim 19. (previously presented) A control system to control energizing one or more electrical resistance igniters from an electrical power source, the control system comprising:

a triac operably connected between the electrical power source and the one or more electrical resistance igniters;

a microprocessor operably coupled to the triac;

a voltage measuring device, the voltage measuring device being operably coupled to the electrical power source so as to measure an output voltage of the power source and being operably coupled to the microprocessor so as to provide an output of the measured output voltage to the microprocessor;

a storage device operably coupled to the microprocessor and in which is stored a multiplicity of time period values and related output voltages;

a program for execution in the microprocessor, the program including instructions and criteria for controlling the operations and functions of the microprocessor and the functionality of the triac; and

wherein the program includes instructions and criteria for:

controlling the triac and thereby application of a voltage to the one or more electric resistance igniters,

controlling the triac so the voltage being applied initially is a first voltage and so the first voltage is applied for a full-on time period, where the first voltage is full line voltage from the power source,

controlling the triac so the voltage being applied thereafter is a second voltage, the second voltage being a nominal operating voltage of the one or more electrical resistance igniters and lower than the first voltage,

determining the full-on time period based on the measured output voltage, and

wherein said determining includes selecting one of the stored multiplicity of time period values as the full-on time period based on the measured output voltage.

Claim 20. (previously presented) A method for controlling energizing an electrical resistance igniter connected to a power source, the controlling method comprising the steps of:

applying line voltage from the power source to the electric resistance igniter for a full-on time period; and

applying a second voltage lower than the first voltage to the electric resistance igniter thereafter, the second voltage being a nominal operating voltage that heats the igniter to a temperature lower than a fuel ignition temperature.

Claim 21. (original) The method of claim 20, further comprising the steps of:

measuring output voltage of the power source; and

determining a full-on time period based on the measured output voltage.

Claim 22. (original) The method of claim 21, wherein said measuring is performed when line voltage is initially applied to the electric resistance igniter.

Claim 23. (original) The method of claim 20, further comprising the steps of:

measuring output voltage of the power source;

determining a full-on time period based on the measured output voltage; and

wherein said determining includes selecting one of a multiplicity of time period values as the full-on time period based on the measured output voltage.

Claim 24. (original) The method of claim 23, wherein said measuring is performed when line voltage is initially applied to the electric resistance igniter.

Claim 25. (original) The method of claim 20, wherein said applying a second voltage includes regulating a substantially constant voltage to the electric resistance igniter.

Claim 26. (original) The method of claim 25, wherein said regulating includes regulating the substantially constant voltage based on the measured output voltage of the power source.

Claim 27. (original) The method of claim 25, wherein said regulating includes duty cycling AC line voltage from the power source in half-wave cycle increments.

Claim 28. (original) The method of claim 20, further comprising the steps of:

operably coupling a switch between the power source and the electrical resistance igniter so the switch selectively controls voltage being applied to the electrical resistance igniter; and

wherein said applying a second voltage includes selectively controlling the switch so a substantially constant voltage is applied to the electric resistance igniter.

Claims 29-30. (cancelled)

Claim 31. (previously presented) A control system to control energizing one or more electrical resistance igniters from an electrical power source, the control system comprising:

a control device;

a voltage measuring device, the voltage measuring device being operably coupled to the electrical power source so as to measure an output voltage of the power source and being operably coupled to the control device so as to provide an output of the measured output voltage to the control device; and

wherein the control device is configured and arranged:

i) to determine the full-on time period based on the measured output voltage,

ii) to selectively control the switch and thereby the application of a voltage to the one or more electrical resistance igniters; and

iii) so that the voltage being applied initially is a first voltage, so the first voltage is applied for a full-on time period and so thereafter the average voltage being applied is a second voltage lower than the first voltage.

Claim 32. (previously presented) The control system of claim 31 wherein the second voltage is a nominal operating voltage that heats the igniter to a temperature lower than a fuel ignition temperature.

Claim 33. (previously presented) A control system to control energizing one or more electrical resistance igniters from an electrical power source, the control system comprising:

a control device configured and arranged to control application of a voltage to the one or more electrical resistance igniters;

wherein the voltage being applied initially is a first voltage, so the first voltage is applied for a full-on time period and so thereafter the average voltage being applied is a second voltage lower than the first voltage, and the second voltage is a nominal operating voltage that heats the igniter to a temperature lower than a fuel ignition temperature.

Claim 34. (previously presented) The control system of claim 33 wherein the control device is configured and arranged to selectively operate a switch so as to regulate the second voltage.

Claim 35. (previously presented) The control system of claim 34 wherein the switch is a triac.

Claim 36. (new) The control system of claim 1 wherein the first voltage is applied at a level whereby voltage developed across the one or more igniters is more than the nominal operating voltage of the one or more igniters.

Claim 37. (new) The control system of claim 33 wherein the first voltage is applied at a level whereby voltage developed across the one or more igniters is more than the nominal operating voltage of the one or more igniters.

Claim 38. (new) A control system to control energizing one or more electrical resistance igniters from an electrical power source, the control system comprising:

a control device configured and arranged to control application of a voltage to the one or more electrical resistance igniters;

wherein the voltage being applied initially is a first voltage, so the first voltage is applied for a full-on time period and so thereafter the average voltage being applied is a second voltage lower than the first voltage, and the first voltage is applied at a level whereby voltage developed across the one or more igniters is more than the nominal operating voltage of the one or more igniters.

Claim 39. (new) The control system of claim 38 wherein a switch is operably connected between the electrical power source and the one or more electrical resistance igniters, and the control device is operably coupled to the switch.